

**Notice of Allowability**

Application No.

10/077,164

Examiner

Naheed Ejaz

Applicant(s)

MIYAHARA, YASUMITSU

Art Unit

2631

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09 September 2005.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 11/08/2005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

TESFALDET BOCHIRE  
PRIMARY EXAMINER

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Norman P. Soloway, Reg.No.24, 315 on 11/08/2005.

The application has been amended as follows:

In the claims:

Claim 1, line 10, after "digital filter"--- a period measuring circuit for generating measurement of period changes in the sign signal output by said digital filter; a threshold holding circuit for setting a threshold equal to a period of an intermediate frequency between the normal frequency band and the aliasing frequency band; a comparator for comparing and determining whether or not the period measured by said period measuring circuit is larger than the threshold, and for outputting a shift control signal when it is determined that the measurement of said period measuring circuit is not larger than the threshold; and a shift register for shifting a signal which is input from said digital filter and stored, based on said shift control signal, and for suppressing an amplitude of the aliasing noise--- has been added.

Claim 3 has been deleted.

Claim 4, line 1, "claim 3" has been changed to read as ---claim 1---.

Claim 5, line 1, "claim 3" has been changed to read as ---claim 1---.

Claim 6, line 3, after "comprises:"---a period measuring circuit for measuring a changing period of the sign signal which is outputted by said digital filter; a threshold holding circuit for holding a period of an intermediate frequency between the normal frequency band and the aliasing frequency band; a comparator for comparing and determining whether or not the period measure by said period measuring circuit is larger than the threshold set by said threshold holding circuit and outputting a clear signal when it is determined that the period is not larger than the threshold set by said threshold holding circuit; and---has been deleted.

Claim 8, line 5, after "sign signal"---a period measuring circuit for measuring a changing period of the sign signal outputted by said digital filter; a threshold holding circuit for holding a period of an intermediate frequency between the normal band and the aliasing band; a comparator for comparing and determining whether or not the period measured by said period measuring circuit is larger than the threshold which is set to said threshold holding circuit and for outputting a shift control signal when it is determined that the period measured by said period measuring circuit is not larger than the threshold; and a shift register for shifting a signal which is inputted from said digital filter and is stored, based on said shift control signal, and for suppressing an amplitude of the aliasing noise---has been added.

Claim 10 has been deleted.

Claim 11, line 1, "claim 10" has been changed to read as ---claim 8---.

Claim 12, line 1, "claim 10" has been changed to read as ---claim 8---.

Claim 13, line 2, after "comprises:"---a period measuring circuit for measuring a changing period of the sign signal which is outputted by said digital filter; a threshold holding circuit for holding a period of an intermediate frequency between a normal band and an aliasing band; a comparator for comparing and determining whether or not the period measured by said period measuring circuit is larger than the threshold set to said threshold holding circuit and for outputting a clear signal when it is determined that the period is not larger than the threshold; and"--- has been deleted.

Remarks:

The above Examiner's Amendment was made in order to the following:

With respect to claims 1 and 3, claim 3 is being incorporated with claim 1 since claim 3 limitations specifically claimed the invention that is anti-aliasing circuit.

With respect to claims 8 and 10, claim 10 is being incorporated with claim 8 since claim 10 limitations specifically claimed the invention that is anti-aliasing circuit.

With respect to claims 4 and 5, in order to change the dependency of claims 4 and 5 from claim 3 to claim 1.

With respect to claims 11 and 12, in order to change the dependency of claims 11 and 12 from claim 10 to claim 8.

With respect to claims 6 and 13, in order not to have redundancy of the claimed limitations partial claims have been deleted.

2. The following is an examiner's statement of reasons for allowance:

The claimed subject matter is allowable because arts of record fail to teach or fairly suggest the claimed anti-aliasing circuit of claim 1 comprises:

“an anti-aliasing circuit for suppressing or removing noise having an aliasing band, which is caused by the half-band processing in said digital filter, by using a sign signal outputted from said digital filter. a period measuring circuit for measuring a changing period of the sign signal outputted by said digital filter; a threshold holding circuit for holding a period of an intermediate frequency between the normal band and the aliasing band; a comparator for comparing and determining whether or not the period measured by said period measuring circuit is larger than the threshold which is set to said threshold holding circuit and for outputting a shift control signal when it is determined that the period measured by said period measuring circuit is not larger than the threshold; and a shift register for shifting a signal which is inputted from said digital filter and is stored, based on said shift control signal, and for suppressing an amplitude of the aliasing noise”.

When used in combination with the following components as claimed by the applicant:

- A/D converter
- digital filter

Hence claim 1 is allowable.

Claims 2, 4-6 are allowable as being dependent from an allowable independent claim.

Claim 7 is allowable for the same reason given above in claim 1.

Claim 8 is allowable for the same reason given above in claim 1.

Claims 9, 11-13 are allowable as being dependent from an allowable independent claim.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Stormont et al. (4,992,736) disclose radio frequency receiver for a NMR instrument.

-McGill et al. (4,603,703) disclose A/D converter, digital filter with polarity SW, detection and matching threshold.

#### ***Contact Information***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naheed Ejaz whose telephone number is 571-272-5947. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Naheed Ejaz  
Examiner  
Art Unit 2631

11/10/2005

TESFALDET BOCLURE  
PRIMARY EXAMINER

